



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/028,320

12/28/2001

Masahiro Taniguchi

032404-020

4754

7590

04/19/2005

Platon N. Mandros  
BURNS, DOANE, SWECKER & MATHIS, L.L.P.  
P.O. BOX 1404  
Alexandria, VA 22313-1404

EXAMINER

TORRES, JUAN A

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/028,320

Applicant(s)

TANIGUCHI, MASAHIRO

Examiner

Juan A. Torres

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 2 is/are allowed.
- 6) ☒ Claim(s) 5-11 is/are rejected.
- 7) ☒ Claim(s) 3,4 and 6-11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 03-15-2002.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

Figures 14 and 15 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the:

a) A processing method of JPEG 2000 bit modeling with a significance propagation decoding pass, where a processing circuit of bit modeling is simultaneously applied to four bits in one group and processes the four bits in parallel, said processing circuit simultaneously generating a context and a decision of data changing according to a state of significance flags of a bit to be processed and ambient bit group and a context and a decision of sign bits changing according to a state of the sign bits of the bit to be processed and the ambient bit group; adopting the context and decision of the sign bits

only when a value of the bit to be processed is 1 and updating the significance flag;  
disposing of the context and the decision when the value of the bit to be processed is 0;  
and updating a processed flag whether the value of the bit to be processed is 1 or 0.

b) A processing method of JPEG 2000 bit modeling with a magnitude refinement pass, where a processing circuit of the bit modeling is simultaneously applied to four bits in one group and processes the four bits in parallel, said processing circuit referring to significance second bit which is information about as to whether or not a bit to be processed is processed with the magnitude refinement pass at first time, a processed flag and an significance flag so as to make a judgment as to whether or not the bit to be processed is processed; and in the case where the bit to be processed is processed with the magnitude refinement pass, generating a context and a decision of the bit so as to update the processed flag.

c) A processing method of JPEG 2000 bit modeling with a cleanup pass, where a first processing circuit of the bit modeling for, when all bits in Annie group to be processed are unprocessed, makes a judgment as to whether or not the bits can be processed collectively and when all the bits in the group are insignificant, generating a special context and a decision; and a second circuit of the bit modeling for not processing processed bits and processing insignificant bits are provided, and said first processing circuit is applied to one bit and said second processing circuit is applied to four bits in the group simultaneously so as to process the bits in parallel.

Must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The disclosure is objected to under 37 CFR 1.71, as being so incomprehensible as to preclude a reasonable search of the prior art by the examiner. For example, the following items are not understood: "Annie group" in page 5 line 12; this term has not been found in the literature.

Applicant is required to submit an amendment which clarifies the disclosure so that the examiner may make a proper comparison of the invention with the prior art.

Applicant should be careful not to introduce any new matter into the disclosure (i.e., matter which is not supported by the disclosure as originally filed).

A shortened statutory period for reply to this action is set to expire ONE MONTH or THIRTY DAYS, whichever is longer, from the mailing date of this letter.

The disclosure is objected to because of the following informalities: in page 5 line 2 the recitation "an significance" is suggested to be changed to "a significance".

Appropriate correction is required.

### ***Claim Objections***

Claim 3 is objected to because of the following informalities: in line 8 of claim 3 the recitation "an significance" is suggested to be changed to "a significance".

Claim 6 is objected to because of the following informalities: in line 25 of claim 6 the recitation "an significance" is suggested to be changed to "a significance".

Claim 6 is objected to because of the following informalities: in line 41 of claim 6 the recitation "is same" is suggested to be changed to "is the same".

Claim 7 is objected to because of the following informalities: in line 25 of claim 7 the recitation "an significance" is suggested to be changed to "a significance".

Claim 7 is objected to because of the following informalities: in line 41 of claim 7 the recitation "is same" is suggested to be changed to "is the same".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 5-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The term "Annie group" is not defined in the specification (page 5 line 12) and has not been found in the standard literature or the JPEG2000 standard.

***Allowable Subject Matter***

Claims 1-4 are allowed over prior art (if the above objections are overcome).

The following is an examiner's statement of reasons for allowance: claims 1-4 are allowed because the references cited fail to teach, as applicant has, a processing method of JPEG 2000 bit modeling with a significance propagation decoding pass, where a processing circuit of bit modeling is simultaneously applied to four bits in one group and processes the four bits in parallel, said processing circuit simultaneously generating a context and a decision of data changing according to a state of significance flags of a bit to be processed and ambient bit group and a context and a decision of sign bits changing according to a state of the sign bits of the bit to be processed and the ambient bit group, adopting the context and decision of the sign bits only when a value of the bit to be processed is 1 and updating the significance flag, disposing of the context and the decision when the value of the bit to be processed is 0; and updating a processed flag whether the value of the bit to be processed is 1 or 0; and a processing method of JPEG 2000 bit modeling with a magnitude refinement pass,

where a processing circuit of the bit modeling is simultaneously applied to four bits in one group and processes the four bits in parallel, said processing circuit referring to significance second bit which is information about as to whether or not a bit to be processed is processed with the magnitude refinement pass at first time, a processed flag and an significance flag so as to make a judgment as to whether or not the bit to be processed is processed and in the case where the bit to be processed is processed with the magnitude refinement pass, generating a context and a decision of the bit so as to update the processed flag, as the applicant has claimed.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yip (US 6545618) discloses a method of entropy coding symbols representative of a code block comprising transform coefficients of a digital image comprising a significance propagation pass, a magnitude refinement pass, and a cleanup pass for entropy coding the symbols; the method generates, prior to the significance propagation pass of the current bitplane, a first list of positions of those coefficients in the code block that have symbols to be entropy coded during the significance propagation pass of the current bitplane and also generates, prior to the magnitude refinement pass of the current bitplane, a second list of positions of those coefficients in the code block that have symbols to be entropy coded during the magnitude refinement pass of the current bitplane; and further generates, prior to the cleanup pass of the current bitplane, a third list of positions of those said coefficients in the code block that have symbols to be entropy coded during the cleanup pass of the

current bitplane. Chen (US 20020107669 A1) discloses a method for entropy coding of discrete wavelet transform (DWT) coefficient bits that are arranged into code blocks and coded in bitplane order using three coding passes for each bitplane are disclosed.

Taubman (US 6658159) discloses digital image compression, and in particular to image compression based on embedded block coding with optimized truncation (EBCOT).

Schwartz (US 6859563) discloses a method for decoding information using late contexts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres  
03-17-2005

  
MOHAMMED GHAYOUR  
SUPERVISORY PATENT EXAMINER